



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/822,094

03/30/2001

Chia-Lin Chu

H052617.1093US0

9060

1200

7590

07/28/2005

AKIN, GUMP, STRAUSS, HAUER & FELD  
1111 LOUISIANA STREET  
44TH FLOOR  
HOUSTON, TX 77002

EXAMINER

LETT, THOMAS J

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/822,094

**Applicant(s)**

CHU ET AL.

**Examiner**

Thomas J. Lett

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 24 January 2005 have been fully considered but they are not persuasive. The Applicant's argument pertaining to the rejection not including "rendering of consistent color" is not persuasive. With respect to rejections of claims 1-5, and 7-11, the 102 rejection is appropriate as applied by the Examiner. The purpose of calibration or correction of a printing device is to render a consistent output of ink (black-white, color, or grayscale). The prior art of Kawanabe et al performs correction with data of the printhead in order to produce a consistent output based on parameters. For example, if Kawanabe et al uses color printheads and is characterizing the data of the printheads for printer correction, the purpose is to render consistent print results to the user of the printer. In addition, Examiner requests Applicant to see abstract of Kawanabe et al, particularly "The system includes the steps of obtaining profile information of the at least one print head, storing the profile parameters in a non-volatile memory, and outputting, upon request, the profile information to a host computer connected to the image printing device, wherein the host computer utilizes the print head profile information to produce compensation parameters which compensate print information to be sent from the host computer to the print head for printing."

With respect to rejection of claims 2, 8, and 25, Kawanabe et al disclose that in view of the varied output from each print head, it is desirable to know a print head's alignment, ink density, as well as other print head characteristics which may affect

Art Unit: 2626

printing so that these variations may be compensated for before printing, col. 1, line 66 – col. 2, line 3). Examiner notes that the optical density measured is the density of the ink from the cartridge as measured by a sensor.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a housing”, and “a computer chip associated with the housing” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

Art Unit: 2626

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 7 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The printer correction program claimed is merely a set of instructions per se. Since the printer correction program is merely a set of instructions not embodied on a computer readable medium to realize the computer program functionality, the claimed subject matter is non-statutory. See MPEP § 2106 IV.B.1.

Claims 8-12, which are dependent of claim 7, are rejected for the same reason as that of claim 7.

4. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The color ink cartridge characterization program claimed is merely a set of instructions per se. Since the color ink cartridge characterization program is merely a set of instructions not embodied on a computer readable medium to realize the computer program functionality, the claimed subject matter is non-statutory. See MPEP § 2106 IV.B.1.

Claims 14, 15, 41, and 42, which are dependent of claim 13, are rejected for the same reason as that of claim 13.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "color ink cartridge characterization program" in line 1 of page 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "color ink cartridge characterization program" in line 4 of page 8. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 7-10, 13, 14, and 16, 17, 19, 20, and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawanabe et al (USPN 6,219,153 B1).

Art Unit: 2626

With respect to claim 1, Kawanabe et al disclose a method of printer color correcting comprising:

accessing characterization data of a color ink cartridge of a color inkjet printer (obtaining profile information of the at least one print head comprising parameters, col. 19, lines 25-29); and

rendering consistent color for the color inkjet printer based on the characterization data (a host processor utilizes the print head profile information to produce compensation parameters which compensate the print head for printing, col. 19, lines 33-36).

With respect to claim 2, Kawanabe et al disclose the method of claim 1, wherein the characterization data comprises density data of the color ink cartridge (sensors (e.g., automatic alignment sensor 82 shown in FIG. 6A) in cartridge receptacles 64 measure print density, and other conditions necessary for printer correction, col. 16, lines 24-28). Kawanabe et al disclose that in view of the varied output from each print head, it is desirable to know a print head's alignment, ink density, as well as other print head characteristics which may affect printing so that these variations may be compensated for before printing, col. 1, line 66 – col. 2, line 3). Examiner notes that the optical density measured is the density of the ink from the cartridge as measured by a sensor.

With respect to claim 3, Kawanabe et al disclose the method of claim 1, wherein the rendering consistent color comprises:

Art Unit: 2626

adding the characterization data to a printer profile for the color ink jet printer (EEPROM 132 stores a plurality of printer profile parameters including those of the print head(s), col. 39, lines 41-52).

With respect to claim 4, Kawanabe et al disclose the method of claim 1, further comprising:

reading an identifier for the color ink cartridge associated with the characterization data of the color ink cartridge to access the characterization data based on the identifier (EEPROM 132 also stores parameters that identify the print heads, col. 15, lines 64-67; *also see*: comparing print head identification information stored in EEPROM 132 with a current print head's ID, col. 38, lines 39-43 indicating that a printhead identifier is read).

Claim 7 is a program claim rejected for the same reason as that of claim 1.

Claim 8 is a program claim rejected for the same reason as that of claim 2.

Claim 9 is a program claim rejected for the same reason as that of claim 3.

Claim 10 is a program claim rejected for the same reason as that of claim 4.

With respect to claim 13, Kawanabe et al disclose a color ink cartridge characterization program (Disk 25 stores application programs, col. 7, lines 8-12) comprising:

code to characterize a color ink cartridge of a color inkjet printer to create ink cartridge characterization data for the color ink cartridge (obtaining profile information of the at least one print head comprising parameters, col. 19, lines 25-29); and

code to store the ink cartridge characterization data in association with an



Art Unit: 2626

identifier for the color ink cartridge (EEPROM 132 stores a plurality of printer profile parameters including those of the print head(s); col. 39, lines 41-52).

With respect to claim 14, Kawanabe et al disclose the color ink cartridge characterization program of claim 13, wherein the ink cartridge characterization data comprises density data of the color ink cartridge (sensors (e.g., automatic alignment sensor 82 shown in FIG. 6A) in cartridge receptacles 64 measure print density, and other conditions necessary for printer correction, col. 16, lines 24-28).

Claim 16 is a system claim rejected for the same reason as that of claim 13.

Claim 17 is a system claim rejected for the same reason as that of claim 14.

Claim 19 is a method claim rejected for the same reason as that of claim 13.

Claim 20 is a method claim rejected for the same reason as that of claim 14.

With respect to claim 23, Kawanabe et al disclose a system consisting of a host processor 23 which reads on a processor; EEPROM 132 stores a plurality of printer profile parameters which are registered with host processor 23 for various purposes, such as for providing compensation parameters to host processor 23 which are in turn used to compensate for physical characteristics of both a print head and ink within a print head cartridge (col 39, lines 41-46), which reads on a printer color correction program executable by the processor, the program comprising: code to access characterization data of a color ink cartridge of a color ink jet printer; and code to render consistent color for the color ink jet printer based on the characterization data.

With respect to claim 24, Kawanabe et al disclose EEPROM 132 stores a plurality of printer profile parameters which are registered with host processor 23 for

Art Unit: 2626

various purposes, such as for providing compensation parameters to host processor 23 which are in turn used to compensate for physical characteristics such as print head ID of a print head cartridge (col 39, lines 41-46), which reads on code to read an identifier for the color ink cartridge associated with the characterization data of the color ink cartridge, wherein the code to access characterization data accesses the characterization data based on the identifier.

With respect to claim 25, Kawanabe et al disclose that it is desirable to know a print head's ink density, as well as other print head characteristics which may affect printing so that these variations may be compensated for before printing (col 1, line 66 - col 2, line 3), which reads on the characterization data comprises density data of the color ink cartridge. In addition, Kawanabe et al disclose that in view of the varied output from each print head, it is desirable to know a print head's ink density, as well as other print head characteristics which may affect printing so that these variations may be compensated for before printing, col. 1, line 66 – col. 2, line 3). Examiner notes that the optical density measured is the density of the ink from the cartridge as measured by a sensor.

With respect to claim 26, Kawanabe et al disclose EEPROM 132 stores a plurality of printer profile parameters which are registered with host processor 23 for various purposes, such as for providing compensation parameters to host processor 23 which are in turn used to compensate for physical characteristics such as ink amount of within a print head cartridge (col 39, lines 41-46), which reads on code to compare the

Art Unit: 2626

density data to a predetermined ink cartridge density level; and code to adjust color for the color ink jet printer to match the predetermined ink cartridge density level.

Claim 27 is a characterization system claim rejected for the same reason as that of claim 13.

Claim 28 is a characterization system claim rejected for the same reason as that of claim 14.

7. Claims 32 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al (USPN 6,116,717).

With respect to claim 32, Anderson et al disclose a printer cartridge (print cartridge 130, col. 3, lines 10-11, see Fig. 2) comprising:

a housing (cartridge body 132, col. 3, lines 12-13), and

a computer chip (memory device 136, col. 3, lines 29-32, see Fig. 2) associated with the housing and configured to store information (device 136 stores customized information for the print cartridge 130, col. 3, lines 29-32) associated with characterization data for the printer cartridge.

With respect to claim 34, Anderson et al disclose a printer cartridge (print cartridge 130, col. 3, lines 10-11, see Fig. 2), as set forth in claim 32, wherein the computer chip (memory device 136, col. 3, lines 29-32, see Fig. 2) is configured to store the characterization data (device 136 stores customized information for the print cartridge 130, col. 3, lines 29-32).

8. Claims 30, 38, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Pan et al (USPN 6,866,359 B2).

Art Unit: 2626

With respect to claim 30, Pan et al disclose a printer (printer 54) configured to access characterization data for a color ink cartridge (real-time cartridge characteristics would be stored within the memory element 78 on the printhead cartridge, col. 5, lines 32-43) and to issue print instructions to the color ink cartridge based on the characterization data (the real-time information would permit the ink jet printer 54 to fine-tune the quality of the resulting image, col. 5, lines 37-38).

With respect to claim 38, Pan et al disclose a tangible machine readable medium (host processor 52, col. 7, lines 56-62) comprising:

code adapted to access characterization data associated with a printer cartridge (characteristics are compared by the processor 52 to the first set of characteristics stored in file 200 that was measured during fabrication of the cartridge 44, col. 7, lines 31-34); and

code adapted to issue print commands to the printer cartridge based on the characterization data (optimal printing parameters, which were initially determined during fabrication, can be adjusted upon installation of a replacement cartridge 44 and during the life of the cartridge 44. The printer 54 is thus effectively re-programmed to optimize image quality, col. 7, lines 51-55. In addition, the processor 52 routes signals to print logic 70, which actuates the jets of a printhead 72 of each printhead cartridge 44, col. 4, lines 31-33).

With respect to claim 39, Pan et al disclose a computer system (see Fig. 1) comprising:

Art Unit: 2626

a printer (ink jet printer 54, col. 4, lines 19-20) configured to receive a printer cartridge (printhead cartridge 44, col. 4, line 23); and

a computer (processor 52, col. 4, line 25) configured to:

access characterization data associated with the printer cartridge (the processor 52 also advantageously communicates with a memory element 78 on each cartridge 44. The information from the memory element 78 is communicated to the processor 52 via communication link 82 which may take a variety of forms, col. 4, 37-41); and

calibrate the printer using the characterization data (Based on the measurement of dot quality, line quality, or drop, the printer 54 can optimize printing for optimized image quality, col. 4, lines 51-53).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanabe et al (USPN 6,219,153 B1) in view of well-known prior art.

With respect to claim 5, Kawanabe et al do not disclose that the identifier comprises an identification number of the color ink cartridge. Kawanabe et al disclose the use alpha characters as identification. It is well-known in the art that each printhead is identified by manufactures with a string of characters (see Bullock et al, USPN

Art Unit: 2626

6,019,449, col. 4, line 39). Also, the identification of a printhead can be formed in a format identifiable to human that is at least one of a digit and a character string (in terms of alpha-numeric code) or as a machine-readable barcode that can be read by an optical reader.

Claim 11 is a program claim rejected for the same reason as that of claim 5.

10. Claims 6, 12, 22, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanabe et al (USPN 6,219,153 B1) in view of Brot et al (USPN 6,522,348 B1).

With respect to claim 6, Kawanabe et al do not disclose accessing the characterization data over the Internet. Brot et al teaches that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). In addition, Brot et al teaches that a link is established with the server, so as to download the logic module 14 via the control data appropriate to the cartridge. To do this, the chip 4 sends on-line the call number of the server and then the chip transmits data to the server identifying the type of cartridge, such as a reference number. This number serves as an internal address within the server for selecting the appropriate data for controlling the head 13 and sends them back to the logic module 14, across the interface 16, col. 3, lines 3-12). Kawanabe et al and Brot et al are analogous art because they are from the similar problem solving area of accessing necessary information. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data fetching feature of Brot et al to Kawanabe et al in

order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server.

Claim 12 is a program claim rejected for the same reason as that of claim 6.

With respect to claim 22, Kawanabe et al do not disclose storing the ink cartridge characterization data on a website. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for connecting to the internet which indicates that the system is capable of accessing data stored on websites. Kawanabe et al and Brot et al are analogous art because they are from the similar problem solving area of data storage. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Kawanabe et al in order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server.

With respect to claim 31, Kawanabe et al disclose using the characterization data to control the ink cartridge of the printer (storing the profile parameters of a printhead in a non-volatile RAM and outputting, upon request, the profile information to a host processor connected to the image printing device, wherein the host processor utilizes the print head profile information to produce compensation parameters which compensate print information to be sent from the host processor to the print head for printing, col. 38, lines 22-31). Kawanabe et al do not disclose accessing a

Art Unit: 2626

website containing an ink cartridge identifier associated with an ink cartridge and characterization data associated with the ink cartridge identifier, and downloading the characterization data for the ink cartridge based on the ink cartridge identifier. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for connecting to the internet which indicates that the system is capable of accessing data stored on websites. Kawanabe et al and Brot et al are analogous art because they are from the similar problem solving area of data storage. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Kawanabe et al in order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server.

With respect to claim 41, Kawanabe et al do not disclose the code to store the ink cartridge characterization data comprises code to store the ink cartridge characterization data on a website. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for connecting to the internet which indicates that the system is capable of accessing data stored on websites. Kawanabe et al and Brot et al are analogous art because they are from the similar problem solving area of data storage. At the time of the invention, it would have



Art Unit: 2626

been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Kawanabe et al in order to obtain a program of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server.

Claim 43 is a method claim rejected for the same reason as that of claim 41.

11. Claims 15, 18, 21, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanabe et al (USPN 6,219,153 B1) in view of Matsumoto et al (USPN 6,439,683 B1).

With respect to claim 15, Kawanabe et al do not disclose that the density data comprises curve fitted density data of the color ink cartridge. Matsumoto et al teaches of a table storing the distribution of density characteristics for the inks of several ink cartridges contained in an inkjet printer (col. 29, lines 25-31, see Fig. 31). Examiner also notes that Matsumoto et al teach that any curves that represent ink density increase characteristics can be used. Kawanabe et al and Matsumoto et al are analogous art because they are from the similar problem solving area of print correction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the ink data characteristics table feature of Matsumoto et al to Kawanabe et al in order to obtain a program of approximating density for the ink of the printer cartridges. The motivation for doing so would be modeling density for the ink of the printer cartridges.

Claim 18 is a system claim rejected for the same reason as that of claim 15.

With respect to claim 21, Kawanabe et al do not disclose that the density data comprises curve fitted density data of the color ink cartridge. Matsumoto et al teaches of a table storing the distribution of density characteristics for the inks of several ink cartridges contained in an inkjet printer (col. 29, lines 25-31, see Fig. 31). Examiner also notes that Matsumoto et al teach that any curves that represent ink density increase characteristics can be used. Kawanabe et al and Matsumoto et al are analogous art because they are from the similar problem solving area of print correction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the ink data characteristics table feature of Matsumoto et al to Kawanabe et al in order to obtain a method of approximating density for the ink of the printer cartridges. The motivation for doing so would be modeling density for the ink of the printer cartridges.

Claim 29 is a characterization system claim rejected for the same reason as that of claim 21.

12. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (USPN 6,116,717) in view of Murray et al (USPN 5,610,635 A).

With respect to claim 33, Anderson et al do not disclose computer chip is configured to store a unique identifier associated with characterization data for the printer cartridge. Anderson et al does mention Murray et al (col. 2, lines 41-52 of Anderson et al). Murray et al teaches that a lot number along with spectral analysis of the ink is stored in memory storage element 48, col. 9, line 66 – col. 10, line 5). Anderson et al and Murray et al are analogous art because they are from the similar

Art Unit: 2626

problem solving area of storing printhead data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the unique identifier feature of Murray et al to Anderson et al in order to obtain a field in memory to store a unique identifier with other stored data. The motivation for doing so would be to store additional data.

13. Claims 35-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al (USPN 6,866,359 B2) in view of Brot et al (USPN 6,522,348 B1).

With respect to claim 35, Pan et al disclose a method of calibrating a printer comprising:

receiving a printer cartridge (cartridge 44 is installed in the ink jet printer, col. 6, line 35), and accessing characterization data corresponding to the printer cartridge (processor 52 may periodically re-measure the characteristics of the cartridge 44 as described above to generate additional sets of resistor data. These additional sets can then be compared with the first set of characteristics stored in file 200 in the memory element 78. Based on this comparison, the printing parameters, such as drop ejection energy and thermal control parameters, can be periodically adjusted so that the print quality produced by the cartridge 44 is again optimized for current cartridge conditions, col. 7, lines 35-43). Pan et al do not disclose downloading the characterization data, and calibrating the printer using characterization data. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for

Art Unit: 2626

connecting to the internet which indicates that the system is capable of accessing website data. Pan et al and Brot et al are analogous art because they are from the similar problem solving area of data access. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Pan et al in order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server that would enable printer correction.

With respect to claim 36, Pan et al do not disclose accessing the characterization data comprises accessing a website. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for connecting to the internet which indicates that the system is capable of accessing website data. Pan et al and Brot et al are analogous art because they are from the similar problem solving area of data access. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Pan et al in order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server that would enable printer correction.

With respect to claim 37, Pan et al disclose accessing the characterization data comprises accessing a computer chip (memory element 78 accessed by processor 52, col. 7, lines 48-51) associated with the printer cartridge (cartridge 44).

With respect to claim 40, Pan et al do not disclose a computer system, as set forth in claim 39, wherein the computer is configured to download the characterization data from a website. Brot et al disclose that provision may be made to capture all or some of the "parameters or characteristics" (col. 2, lines 50-52) data for controlling the printhead 13 by downloading the data from servers, col. 2, lines 62-65). Examiner notes that the system of Brot et al has an interface 16 for connecting to the internet which indicates that the system is capable of accessing data stored on websites. Pan et al and Brot et al are analogous art because they are from the similar problem solving area of data storage. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the data server storage feature of Brot et al to Pan et al in order to obtain a method of obtaining remotely stored data. The motivation for doing so would be to access data stored at a manufacturer's website on a server.

14. Claims 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanabe et al (USPN 6,219,153 B1) in view of Anderson et al (USPN 6,116,717)

With respect to claim 42, Kawanabe et al do not disclose the code to store the ink cartridge characterization data comprises code to store the ink cartridge characterization data on a computer chip associated with the color ink cartridge. Anderson et al disclose a printer cartridge (print cartridge 130, col. 3, lines 10-11, see Fig. 2), as set forth in claim 32, wherein the computer chip (memory device 136, col. 3, lines 29-32, see Fig. 2) is configured to store the characterization data (device 136 stores customized information for the print cartridge 130, col. 3, lines 29-32).

Art Unit: 2626

Kawanabe et al and Anderson et al are analogous art because they are from the similar problem solving area of storing printhead data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the memory device 136 feature of Anderson et al to the printhead(s) of Kawanabe et al in order to obtain a field in memory to store ink cartridge characterization data. The motivation for doing so would be to store additional data.

Claim 44 is a method claim rejected for the same reason as that of claim 42.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Van Der Meijs (USPub 20020122204 A1) discloses a method of configuring an ink cartridge and printer using the internet.

Jeran et al (USPub 20030025939 A1) disclose a printer data cartridge apparatus that enables a printer manufacturer to design a printer that is updateable by the consumer. The apparatus provides the consumer with the ability to inexpensively change the print characteristics of the printer whenever the use of the printer is changed or when print characteristics technology changes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Lett whose telephone number is (571) 272-7464. The examiner can normally be reached on 7-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJL

(TJL)

  
KIMBERLY WILLIAMS  
SUPERVISORY PATENT EXAMINER